

Application No.: 10/625,586
Docket No.: KB4615 USNA

Remarks

Claim 1 has been amended to further distinguish over the prior art. Claims 3 and 5 have been canceled. In view of this, reconsideration and allowance of the Claims of the present invention is respectfully requested.

Rejection Under 35 U.S.C. 103(a)

Claims 1-[19?] are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiou et al (U.S. Patent 6,133,169) in view of Howland (US Patent 6,720,277 B1).

The rejection appears to state that Chiou et al discloses all the Claims except Chiou et al does not disclose the use of yarns made from staple fiber. Then the Examiner cites Howland (US Patent 6,720,277) to show use of staple fiber in puncture resistant materials.

Applicants respectfully traverse this obviousness rejection. The cited reference does not teach or suggest the claimed improvement. No suggestion can be found in any of the references for making the combination suggested by the Examiner. Even if the references were considered in combination by one of ordinary skill in the art, the claimed invention would not have been and is not obvious therefrom. In view of these facts, the Examiner has not established a prima facie case of obviousness.

To further distinguish Claim 1 from the cited art, Claim 1 has been amended to state that the yarn is ply yarn which comprises a plurality of yarns plied and twisted together in an opposite direction of twist in the plurality of yarns in the ply yarn. Support for this amendment is found in the first paragraph on page 10. This limitation is not disclosed in or obvious in view of either of the applied references alone or in combination. For this reason alone, this rejection should now be withdrawn.

In addition, Chiou et al does not disclose or make obvious the use of any staple yarn. Whereas, Claim 1 is directed to a penetration resistant article comprising a plurality of flexible layers of woven fabric made from staple yarn. As such, Chiou et al does not disclose or make obvious any of Claim 1.

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The present invention also recites an article comprising a plurality of flexible layers of woven fabric made from staple yarn having a tenacity of 3 to 16 grams per dtex. In contrast, Chiou et al disclose continuous filament yarns which "should exhibit a tenacity of greater than 20 grams per dtex and as much as 50 grams per dtex or more." See col. 4, lines 1-3. The Examiner argues that this is a preferred range and thus the examiner ignores this teaching away from the present invention. This is a misreading of Chiou et al as a whole. All Comparative Examples in Chiou et al used tightly woven penetration resistant fabric layers made of yarn with a tenacity of 24.3 grams per dtex; yet they didn't perform adequately compared to the examples of the invention in Chiou et al. In view of this, one skilled in the art would not have made a fabric from yarn with lower tenancy, as was done in the present invention. Thus, Chiou et al, taken as a whole, is a clear teaching away from using yarn having a tenacity below 20 grams per dtex.

Howland (US Patent 6,720,277 B1) does not disclose or make obvious a plurality of woven fabric layers having the areal density recited in Claim 1, having the fabric tightness factor of Claim 1, and made of ply and twisted staple yarn staple yarn recited in Claim 1.

Thus, neither applied reference discloses a penetration resistant article comprising a plurality of flexible layers of woven fabric made of ply and twisted staple yarn as recited in Claim 1.

Since Claim 1 is the sole independent claims and since Claim 1 should be allowable for the reasons stated above, all other Claims which depend from Claim 1 should be allowed.

As such, it is respectfully submitted that this rejection is overcome and should be withdrawn.

Conclusion

The foregoing reasons are believed to comprise a full and complete response to the outstanding non-final Examiner's Office Action. Further, it is submitted that any basis for the rejections of the Claims has been obviated. Thus, Claims 1, 2, 4, and 6-19 are respectfully submitted to be in condition for allowance. Favorable reconsideration with subsequent allowance of Claims Claims 1, 2, 4, and 6-19 is respectfully requested. If any matter remains to be

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resolved before allowance, the Examiner is encouraged to call Applicants' attorney at the number provided below.

Respectfully submitted,



JOHN E. GRIFFITHS
ATTORNEY FOR APPLICANTS
REGISTRATION NO. 32,647
TELEPHONE: (302) 892-7909
FACSIMILE: (302) 892-7343

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